

Application No.: 09/522,709

REMARKS

I. Introduction

In response to the pending Office Action, Applicants have amended claims 1-3, 17 and 20 in order to overcome the § 112 and 101 rejections and to further clarify the subject matter of the present invention. Applicants submit that all effort has been made to prevent the introduction of new matter.

Applicants respectfully submit that all pending claims are patentable for the reasons set forth below.

II. The Rejection Of Claims 1-3, 17 And 19-20 Under 35 U.S.C. § 101

Claims 1-3, 17 and 19-20 have been rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Applicants respectfully submit that the § 101 rejection is without merit.

It is alleged that the present invention is nothing more than generalization regarding the various factors to be taken into consideration and is short on any particular or specific direction or guidance in achieving the desired results and in providing a concrete result. As such, the Examiner alleges that these claims do not produce a “useful, concrete and tangible result”.

Applicants have analyzed the factors in MPEP § 2106 to determine whether the Examiner’s allegation that the claims do not recite a “useful, concrete and tangible result” is correct. Based on the analysis presented below, the Examiner’s position is without merit.

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i. Useful

For an invention to be "useful" it must satisfy the utility requirement of section 101. The USPTO's official interpretation of the utility requirement provides that the utility of an invention has to be (i) specific, (ii) substantial and (iii) credible. MPEP § 2107 provides guidelines for evaluating "specific" and "substantial". "Specific utility" is *specific* to the subject matter claimed, and can "provide a well-defined and particular benefit to the public." To satisfy the "substantial" utility requirement, an asserted use must show that the claimed invention has a significant and presently available benefit to the public.

Claim 1 is directed to method of using a computer for managing risk describes how the steps of modeling locational prices of the commodity in the market as a linear combination of congestion prices for congestible lines in the network and producing a combination of price risk instruments for the market leads to reduction of the congestion prices for the congestible lines on the locational prices of the commodity. This claim is specific in that the claim allows the public to reduce or eliminate the risk of trading commodities from the congestible lines on the locational prices. Obviously, the benefit to the public is to lower risk to the public. Accordingly, it is clear that the claims are both specific and substantial.

In determining whether a claim is credible, the Federal Circuit has stated, "[t]o violate [35 U.S.C. 101] the claimed device must be totally incapable of achieving a useful result". As it is quite clear that a claim directed to method of using a computer for managing risk or a portfolio generating or evaluating system is not totally incapable of achieving a useful result, Applicants assert that claims 1-3, 17 and 19-20 are indeed credible. As such, Applicants respectfully submit that claims 1-3, 17 and 19-20 are useful as defined by the official interpretation of the § 101 utility requirement.

Application No.: 09/522,709**ii. Concrete**

Another consideration is whether the invention produces a "concrete" result. Usually, this question arises when a result cannot be assured. In other words, the process must have a result that can be substantially repeatable or the process must substantially produce the same result again. As is clear from the claims, the generation of a portfolio is based on calculations of concrete data obtained from locational prices of the commodity in the market by use of a computer. The result will always be the same provided that the same data is used. As such, claims 1-3, 17 and 19-20 provide a concrete result.

iii. Tangible

Lastly, the "tangible" requirement does require that the claim must recite more than a 35 U.S.C. 101 judicial exception, in that the process claim must set forth a practical application of that judicial exception to produce a real-world result. As stated by the Examiner, these judicial exceptions are an abstract idea, a law of nature or a natural phenomenon. These three exclusions recognize that subject matter that is not a practical application or use of an idea, a law of nature or a natural phenomenon is not patentable.

As stated above, the claims produce a portfolio to determine a way for hedging commodity prices. Since hedging for prices is neither an abstract idea, a law of nature or a natural phenomenon, the claims of the present invention do not reside under this judicial exception, not has it been suggested that they do. Moreover, a real-world result is produced. Accordingly, Applicants submit that claims 1-3, 17 and 19-20 are tangible, as defined by the USPTO guidelines.

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As such, a useful, tangible and concrete result may be obtained. Accordingly, Applicants respectfully request that the § 101 rejection of claims 1-3, 17 and 19-20 be withdrawn.

III. The Rejection Of Claims 1-3, 17, 19 And 20 Under 35 U.S.C. § 112

Claims 1-3, 17, 19 and 20 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Applicants respectfully traverse this rejection for at least the following reasons.

The amendments to claim 1 to remove the “using a computer” language from the beginning of the steps and rewording the claim language to show that the steps are performed by use of a computer overcomes the rejection that previously showed the intended use of the computer.

The amendment to claims 1 and 17 to recite “producing a combination of price risk instruments for the market in which the amounts of each of the price risk instruments are proportioned to cause the eventual locational prices to be interlocked” provides an explanation as to how the method manages risk by showing how the risk is related to the combination of price risk instruments. Furthermore, the phrase “in a proportion” has been more clearly defined.

It is also alleged that claim 19 is incomplete for omitting essential structural cooperative relationships of elements because the claim does not have structure or functionality. The specification clearly points out how a computer is used to calculate the variables x, y, P and A that are part of determining the price risk. Variables A (page 9, line 20 – page 11, line 25), P (page 12, lines 1-20), x and y (page 13, lines 5-16) are clearly defined. The results, based on mathematical equations calculated by computer, produce a portfolio for hedging a set of underlying positions at a prospective time. Furthermore, Applicants point out the portion of the specification on page 20, lines 18 and forward which recites

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"One embodiment of the disclosure is related to the use of computer system 400 for trading. According to one embodiment of the disclosure, trading is provided by computer system 400 in response to processor 404 executing one or more sequences of one or more instructions contained in main memory 406. Such instructions may be read into main memory 406 from another computer-readable medium, such as storage device 410..."

In this embodiment, the entire operation is performed by computer. All of the essential structural cooperative relationships of elements take place in the computer. Accordingly, the structural elements recited in the claim ("a computer-based system configured to generate a portfolio") are all included in the claim. Furthermore, as the portfolio is generated by the computer, the function is defined as well.

The amendment to claim 20 overcomes the rejection for having insufficient basis by reciting "at least one congestible lines".

Accordingly, in view of the above comments, Applicants respectfully request that the § 112 rejection of claims 1-3, 17, 19 and 20 be withdrawn.

IV. The Rejection Of Claims 1-3, 17 And 19-20 Under 35 U.S.C. § 103

Claims 1-3, 17 and 19-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hildebrand and Ott ("Statistical Thinking for Managers", 4th Ed. 1998, pp. 556-604 and 709) in view of Stoft ("Pricing Scarce Transmission In a Bilateral Market", January 31, 1998), Bodie et al. ("Investments", 3rd Ed., pp. 697-701, 810-830, G6) and Stoft, et al. ("Primer on Electricity Futures and Other Derivatives", January 1998). Applicants respectfully traverse these rejections for at least the following reasons.

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With regard to the present disclosure, claim 1 recites a method of using a computer for managing risk in a market related to a commodity delivered over a network comprised of tradable network locations, comprising the steps of: modeling locational prices of the commodity in the market as a linear combination of congestion prices for congestible lines in the network; and producing a combination of price risk instruments for the market in which the amounts of each of the price risk instruments are proportioned to cause the eventual locational prices to be interlocked such that an effect of the congestion prices for the congestible lines on the locational prices of the commodity is reduced.

Similarly, claim 17 recites a computer-readable medium bearing instructions for managing risk in a market related to a commodity delivered over a network, said instructions being arranged to cause one or more processors upon execution thereby to perform the steps of: modeling locational prices of the commodity in the market as a linear combination of congestion prices for congestible lines in the network; and producing a combination of price risk instruments for the market in which the amounts of each of the price risk instruments are proportioned to cause the eventual locational prices to be interlocked such that an effect of the congestion prices for the congestible lines on the locational prices of the commodity is reduced.

Furthermore, claim 19 recites a portfolio generating system and portfolio comprising: a computer-based system configured to generate a portfolio having a plurality of price risk instruments; the portfolio comprising: the plurality of price risk instruments for a market related to a commodity delivered over a network, wherein the price risk instruments y are proportioned such that $z'A - y'P'A = 0$, A represents distribution factors describing the physics of power flows in the network, P represents the available market of price instruments, z represents a market

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participant's underlying position in the market at a prospective time T , and primes denote transpositions.

It is alleged that Hildebrand and Ott teach linear modeling techniques which may be used to understand and predict the position held by participants in a market. However, the Office Action admits the failure of Hildebrand and Ott to disclose all of the limitations of claims 1, 17 and 19. It is suggested that Stoft recites the limitations in claims 1 and 17: the computation of congestion prices for congestible lines in the network; and producing a combination of price risk instruments for the market in a proportion such that an effect of the congestion prices for the congestible lines on the locational prices of the commodity is reduced.

In addition, Stoft is alleged to disclose the limitations of claim 19: a computer-based system configured to generate a portfolio having a plurality of price risk instruments; the portfolio comprising: the plurality of price risk instruments for a market related to a commodity delivered over a network, wherein the price risk instruments y are proportioned such that $z'A - y'P'A = 0$, A represents distribution factors describing the physics of power flows in the network, P represents the available market of price instruments, z represents a market participant's underlying position in the market at a prospective time T , and primes denote transpositions.

However, Stoft fails to remedy the above mentioned deficiency of Hildebrand. Stoft only refers to congestion pricing describe the theory in the *spot* electricity market (see, Abstract of Stoft). One aspect of one of the present embodiments is the assumption that the spot pricing in electricity markets is efficient (and this is well-known in the art), but that the forward or futures markets may not be efficient. As such, this embodiment describes techniques by which one can either profitably arbitrage such inefficiencies (if they exist) or partially or completely hedge their

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exposure to congestion risk in forward or futures markets. In contrast, Stoft is very limited in that it holds true for a certain pricing regime only, Chao-Peck pricing, whereas the present embodiment does not depend on Chao-Peck pricing. As such, Stoft fails to disclose the limitation of claims 1 and 17 of producing a combination of price risk instruments for the market in which the amounts of each of the price risk instruments are proportioned to cause the eventual locational prices to be interlocked; and the limitation of claim 19 of generating a portfolio having a plurality of price risk instruments wherein z represents a market participant's underlying position in the market at a prospective time T . Moreover, Bodie is also silent with respect to forward or futures markets.

Furthermore, none of the cited prior art references address the issue of futures portfolio positions in a market with the unique characteristics of a power market. As is well known in the art, it is simply not possible to extrapolate what others have done in commodity or other markets to the power markets since none of these markets, without exception, have the feature of guaranteeing a limited set of fixed patterns of possible futures prices (that are imposed by Kirchoff's laws of power flows). As such, the teachings of Stoft and Bodie are not at all related to the claims of the present disclosure.

Accordingly, it is submitted that Hildebrand, Stoft and Bodie, alone or in combination, do not render claims 1, 17 and 19 or any pending claims dependent thereon, obvious.

V. All Dependent Claims Are Allowable Because The Independent Claim From Which They Depend Is Allowable

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*,

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819 F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as claims 1, 17 and 19 are patentable for the reasons set forth above, it is respectfully submitted that all pending dependent claims are also in condition for allowance.

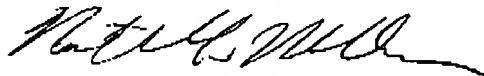
VI. Conclusion

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication of which is respectfully solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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